HYDX

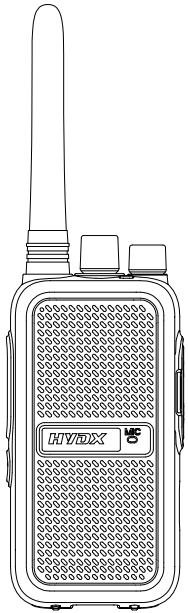
Fujian Juston Electronic Equipment Co.,Ltd.
www.hydxradio.com

HYDX

D500

Digital DMR Two-way Radio

User's Manual



DMR
DIGITAL MOBILE RADIO ASSOCIATION

Brief Introduction

Thank you for buying hand held walkie-talkie. We believe this simple, stable, beautiful and widely used in all industries and area of professional wireless communications equipment will give you a great surprise. This product is for professional commercial or amateur frequencies, it is necessary to apply for permission to the wireless administrator of the provinces and autonomous regions in the local country.

Please read this manual carefully in order to know how to properly operate the radio before use.

Contents

Unpacking and Checking Equipment

Welcome to use the wireless walkie-talkie, please check before using:

Please check the packing box of this product and see if there are signs of damage.

Please open the packing box carefully. We recommend that you identify the items listed in the following packing list. If you find that our product and its accessories in handing are lost or damaged during the shipment. Please immediately contact dealers.

Parts List

Item	Quantity
Radio	1
Rubber Antenna	1
Li-polymer Battery	1
Desktop Charger	1
Belt Clip	1
Hand-Strap	1
User's Manual	1

Battery Usage Information

Using the Battery

The battery is not completely charged at the factory, please charge it before using.

To extend the battery life time, please power off the batteries when you are not use two way radio, and save battery in a cool (temperature less than 25℃) and dry place.

Charging the Battery

Please use the designated charger to charge battery, the battery is not completely charged at the factory, if you store it for a long time (more than two months) after purchase, the first time to charge battery cannot make it reach its normal operating capacity. After repeating charge/discharge it two or three times, the operating capacity will increase to its normal capacity.

Precautions of Charging Equipment

1.Do not expose the charger to rain or snow.

2.Do not operate or disassemble the charger if it has received a sharp blow, or has been dropped.

3.Never alter the AC cord or plug provider with the unit. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.

4.To avoid damaging the power cord or socket, pull the plug out of the socket with a hand plug. Do not pull the plug out by pulling the power cord.

5.To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the charger from the AC receptacle.

6.Use of an attachment not recommended or sold may result in a risk of fire, electric shock, or personal injury.

7.Make sure the cord is located so it will not be stepped on, tripped over, or subjected to damage or stress.

8.An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and/or electric shock. If an extension cord must be used, make sure that: Extension line cord uses the same pins.

Use 18AWG wires less than 30meters in length and use 16AWG wires within 45 meters.

9.Do not replace charger's power cord. If the power cord damages, you must stop using charger immediately.

Please Charge the Radio According to Operation Steps as Follows:

1.Inset the plug of charger into power supply socket.

2.The charging indicator lights green.

3.Inset the battery or radio equipment with battery into the charger.

4.Confirm the battery and charger terminal contact reliably, when charging indicator light turns into red and charging starts.

5.After completion of charging (charging time is about 4 hours), indicator light turns to be green.

Indicator Display As Following

Status	Indicator
Power Connected	Green light is on
No battery	Green light is on
Charge Normally	Red light is on
The battery is fully charged	Green light is on
Fault	All go out

Note: Before charging, please turn off the radio power equipment with battery. When charging, using radio will interfere with normal charge of battery and transceiver effect.

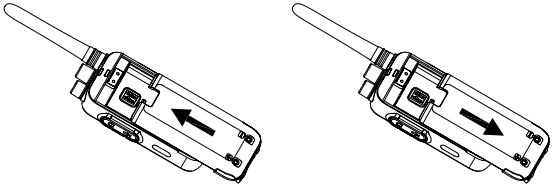
Install/Remove Accessories

Installing/Removing the Battery

Align the two protruding locating latches above the battery with the corresponding slots in the aluminum housing on the back of the radio to ensure that the battery is in full contact and parallel with aluminum shell.

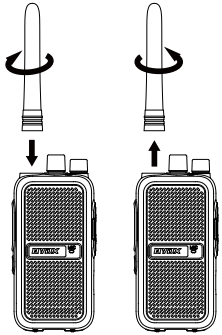
Push the battery along the aluminum guide rail at the back of the radio until the battery latch is locked;

To remove the battery, make sure the radio is off first, then press down the battery latch. After ensure that the radio and battery are released, push the battery backward out of the radio.



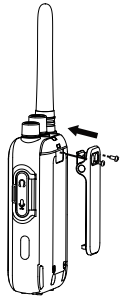
Installing/Removing the Antenna

Align the threaded of the antenna with the radio's antenna connector. Turn the antenna clockwise to fasten it. To remove the antenna, please turn the antenna anticlockwise until you can remove it.

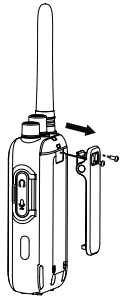


Installing/Removing the Belt Clip

If necessary, the randomly configured belt clip can be inserted into the slot on the back of the battery pack for easy carrying.



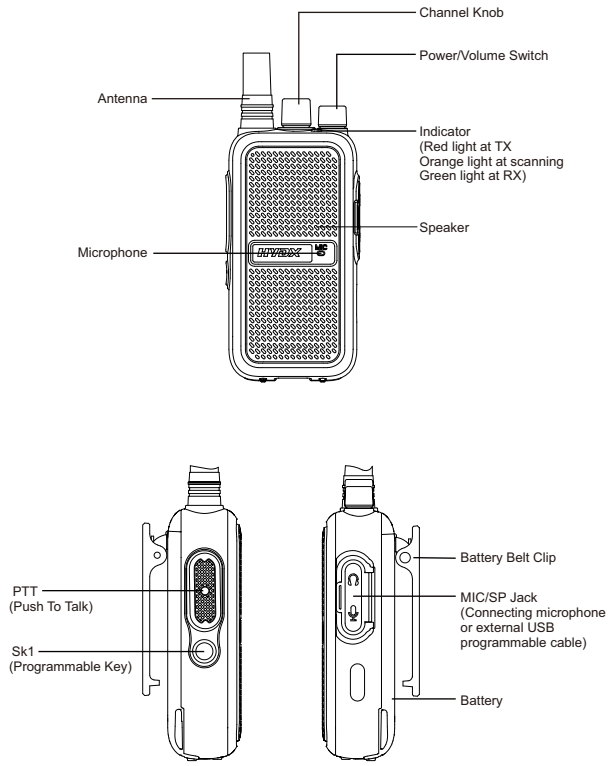
To remove the belt clip, simply remove the screws out of the belt clip.



Installing Speaker/Microphone

Lift the headphone cover and insert the speaker/microphone headset directly into the speaker/microphone jack.

Getting Familiar



Note: The pictures are for reference only, and the appearance may vary due to different models.

Basic Use of Keyboard:

Users can set the function of SK1 according to their needs by progra -mming software.

Sk1: Defined programming Key(can be set long/short press function)

1	Unassigned (default)
2	All Alert Tones On/Off
3	Emergency On
4	Emergency Off
5	High/Low Power
6	Monitor
7	Nuisance Delete
8	One Touch Access 1
9	One Touch Access 2
10	One Touch Access 3
11	One Touch Access 4
12	One Touch Access 5
13	One Touch Access 6
14	Repeater/Talk Around
15	Scan On/Off
16	Tight/Normal Squelch
17	Privacy On/Off
18	VOX On/Off
19	Zone Toggle
20	Battery Indicator
21	Lone Worker On/Off

One-touch Access function below

1	None
2	Analog---DTMF calling---DTMF contact
3	Digital---Calling, Kill, Active, Remote Monitor---Contact (Calling, Kill, Active, Remote Monitor only support decode)

Safety

Product safety and RF Exposure for hand-held two way radio

Before using this two way radio, please read carefully the attached manual instruction in the random incidental for the safe use of the product.

This radio is limited to professional applications that meet FCC radio-frequency energy requirement. Before using this two way radio, please read the manual which contains important operating instructions for safe usage, RF Energy/Awareness, control information and operational instructions for compliance with RF Energy Exposure limits in applicable national and international standards. Also read the operational instructions for safe use.

Overview

Turn On

Clockwise to turn on the radio volume knob, there will be a “KADA” sound, message sound and report the current channel number, while the green light is on.

Note: If you want to turn off the radio, anticlockwise to rotate the volume knob until you hear a “KADA” sound.

Adjust Volume

Clockwise rotate the volume knob to higher the volume or anticlockwise to lower.

Single Call

This radio supports confirmation single call, if you check the “Single Call” on the channel, it is necessary to detect the presence of the target radio before calling the other party. When the target radio does not exist, press the PTT will not make a single call.

1.When the default communication address of the digital channel is set to single call ID, press PTT key to initiate a single call for the current contact.

2.On the contact menu, select the single caller to press the PTT key to call the selected single caller.

3.When the programming key is set as a one-touch to access digital single call contact, press the corresponding button and then press the PTT key can launch single calling.

4.Select the single call contact in the caller/received/unconnected number, and press PTT key can launch a single call.

Group Call

1.When the default communication address of the digital channel is set to group call ID, can press the PTT key to launch group calling.

2.On the contact menu, select group call ID then press PTT key to launch a group calling.

3.In the dialed records/received/unanswered number select group call, press PTT key can launch the group call.

4.When the programming key is set as a one-touch to access digital group call contact, press the corresponding button and then press the PTT key can launch group calling.

All Call

1.When the default communication address of the digital channel is set to all call ID, can press the PTT key to launch all calling.

2.On the contact menu, select all call ID then press PTT key to launch all calling.

3.In the dialed records/received/unanswered number select all call, then press PTT key can launch the all call.

4.The receiver of all call can't answer it.

Note: If the call prompt setting is enabled, press the PTT key for transmitting, the transmitter and receiver will hear a fixed hint tone.

Launch and Receive Calls

In the digital mode, when received a single call, the green light is on. In the single call pending time, press PTT key can respond the current single call. Beyond the pending time, it will exit the single call.

When received the group call, in the group call pending time, press PTT key can respond the current group call.

When received the all call, the all call does not have the pending time, so can't respond it.

Note: If set the channel free indication tone, when the transmitter release PTT key, receiver will hear a short hint tone.

Menu Operation

Contact

Contact list can be viewed on contacts after reading frequency by programming software (up to 1000 digital contacts can be added).

1.Group Call Type

When the contact member type is selected to group call, can view or change the name of contact and group call ID.

2.Single Call Type

When the contact member type is selected to single call, can view or change the name of contact and single call ID, receive the operation of kill/activation or remote monitoring.

Radio Kill: The radio can be killed. After being killed, all operations are disabled. When the “Radio Disable Decode” which on the “Digit Emergency System” is checked, the radio can transmit/receive the kill command (If not check it, the radio can't be killed).

Radio Activated: The radio can be activated to restore it to the normal working state. When the “Radio Disable Decode” which on the “Digit Emergency System” is checked, the radio can transmit/receive the activation command (If not check it, the radio can't be activated)

Note: Use the programming software to read the radio and program it again also can activate the killed radio.

Remote Monitor: This function allows the radio to be secretly remotely monitored surrounding voice activities without notification. Only the “Remote Radio Decode” which on the “Digit Emergency System” is checked, the radio can be allowed monitoring the voice activities.

3.All Call Type

When the contact member type is selected to all call, can view all call ID: 16777215.

Note: This radio only allowed to add group call type's and single call type's contact by programming software. After input number (1-16776415), the maximum can input twelve characters. Name input is completed, press the selected tone then press confirmation to save. New contact can be found in the contact list.

Function Setting

Radio Setting: This function provides some parts of radio's basic setting for user.

CTCSS/DCS (Only support analog channel): The radio analog channel supports the function to ensure the quality of the call, when channels active ATRS function, it must be have the subsonic function (this function can be set in the programming software). Voice output is allowed when the transmitted and received subsonic are match. After reading by the programming software, can set the CTCSS/DCS encode or decode and close. Selected a subsonic value from the exiting list to encode or decode. (The specific subsonic value is referred to the CTCSS table and DCS table)

1.Decode: The radio of receiver will decode the CTCSS/DCS sent by the transmitter. When the CTCSS/DCS set up here matches that from the sender can open the speaker and output the voice.

2.Code: Before sending the voice, the radio of transmitter will encode the CTCSS/DCS and add it to the voice. This encode will be sent through the carrier. When the received CTCSS/DCS of the receiver matches that setting can open the speaker and output the voice.

Note: On the programming software, the analog channel supports setting non-standard CTCSS (range 60Hz-259.9Hz) and non-standard DCS (range 001-777)

CTCSS									
67.0	69.3	71.9	74.4	77.0	79.7	82.5	85.4	88.5	91.5
94.8	97.4	100.0	103.5	107.2	110.9	114.8	118.8	123.0	127.3
131.8	136.5	141.3	146.2	151.4	156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5	186.2	189.9	192.8	196.6	199.5
203.5	206.5	210.7	218.1	225.7	229.1	233.6	241.8	250.3	254.1

DCS									
/	023	025	026	031	032	036	043	047	051
053	054	065	071	072	073	074	114	115	116
122	125	131	132	134	143	145	152	155	156
162	165	172	174	205	212	223	225	226	243
244	245	246	251	252	255	261	263	265	266
271	274	306	311	315	325	331	332	343	346
351	356	364	365	371	411	412	413	423	431
432	445	446	452	454	455	462	464	465	466
503	506	516	523	526	532	546	565	606	612
624	627	631	632	654	662	664	703	712	723
731	732	734	743	754					

Squelch: Filtering out the intensity is not enough to generate clear incoming signals to eliminate unwanted noise. The lower the squelch level, the easier to receive the signals. And at the same time, it will be affect by the useless calling. The higher the squelch level, the more useless calls will be filtered. However, calls from remote locations may also be filtered out. Users can set the suitable squelch level according to their needs.

Transmitting Power: Allow users adjust the radio's transmitting power high/low by preset programming key, or modify the high/low power of each channel by programming software.

Talk Around: When the radio works in the repeater mode, but the transfer service is not available, the radio can open the talk around function by preset programmable key to enter communicate. There will be a prompt tone when open the talk around function, the radio use RX frequency to transmitted, so the two radios can achieve communicate directly.

Note: If want to enable this function, the RX frequency and the TX frequency must be different, and the channel must check the talk around function by programming software.

Wide/Narrow Band (only support analog channel): Allow users set up the radio's wide/narrow band by programming software.

Busy Channel Lockout: Allow users select a state of lockout by programming software. Select the “Always”, the BCLO can't work; select the “Channel Free”, this channel is not allow transmit when with carrier; select the “Color Code”, this channel is prohibit launching when the code is matched.

Time out Timer: Time out timer function can prevent the current occupied too long by signal user. For the much busier channel, can set shorter TOT. If the continuous launching time exceeds the preset value, the radio has the “beep” warning sound, and it is will automatically terminate the launch. TOT can be set to infinite or 15-555s by programming software.

VOX: The function of VOX let you don't press PTT key when transmit. After this function is turned on, the TX operation can be started directly by voice. When the voice stops, the TX is automatically ended. It allows users turn on the VOX function by preset programmable key. And the VOX level can be set to 1-10 on the “General Setting” of programming software (level 1 has the highest sensitivity, level 10 has the lowest sensitivity), or set turn on/off in the channel.

Digital Encryption (Only supports digital channel): Voice encryption function can ensure the language communication safety. Allow users turn on/off this function by preset programming key, or select basic encryption type and set encryption key by programming software. The radio that has turned on the encryption function, only the type of voice encryption and encryption key are the same can communicate. If your radio received different encryption key's call, then you will hear confusion.

Note: The voice encryption function only valid in digital mode.

Power Save: Enable this function can make the free radio automatically enter the power save mode, power save mode can extend the battery's life, but will causes the respond time delay.

Prompt Tone: Allow users turn on/off the prompt tone by programming software or preset programming key. Including the setting of all tones, CH free indication tone, self-test pass tone, talk permit tone, TX exit tone etc. The all tones control all hints except the voice announcement and function key, if turn off the all tones, the alarm tone also can still played normal.

Voice Announcement Select: Can set the voice announcement by programming software, it supports two languages of Chinese and English.

Radio Information

Basic Information: Allow the users to read and consult the basic information of radio by programming software, which including frequency range, last programmed time, model, serial number, CPS version, hardware version, firmware version, device ID.

Radio Configuration

- **RX Frequency:** Can read, check，or modify the RX frequency of each channel by programming software.
- **TX Frequency:** Can read, check，or modify the TX frequency of each channel by programming software.
- **Channel Name:** Can read, check，or modify the name of each channel by programming software.
- **Color Code (Only support digital channel):** Users can modify the color code of each channel according their needs by programming software. The optional range is 0-15.
- **Time Slot:** Users can modify the time slot of each channel according their needs by programming software, there have time slot 1, time slot 2 to select (only check the optional of “DCDM Switch” on the channel can select)

Zone

The radio can support 250 zones at most, one zone can add 16 channels at most, and 250 zones can support 4000 channels at most. You can set the programmable key to “Zone Toggle” by programming software, and enter to the zone switchable (need set more than two zones to switch the zone).

Scanning

The radio can support 250 scanning list at most and with a maximum of 31 members for each scan list, each scan list supports a mixture of analog and digital channel, you can add/delete channel or set priority for the channel by editing scan list. The scan modes support time scan, carrier scan and search scan.

The scan list of current channel adds the scan group, and it contains at least 2 channels, can open the scan channel function. When scanning, listen to the channels in the scan list and check whether there have voice activities in each channel. There are three type of scanning can be selected: none, priority channel 1, priority channel 2. The LED indicator lights flash orange. When the scan detects activity in the channel will stop to receive.

If receive the unnecessary call, press the programmable key which set to “Nuisance Delete” to temporarily removed the current channel from scan list. If want to close scan, can press programmable key or switch the channel to exit scan function.

Note:

1.If channel checks the automatically scanning function, when switched to this channel, the device will automatically enter scan.

2.When programmable key function is set to scan turn on/off, it only can be turned on/off scan by pressing programmable key.

Digital Emergency Alarm

Emergency mode is used to express emergency situation. You can press the programmable key to launch emergency alarm at any time, and enter to emergency mode. The radio supports three types of emergency alarm.

Emergency Alarm Types

Routine: When the radio launches an emergency alarm, the LED lights red and the alarm tone is continuously played.

Silence: When the radio launches an emergency alarm, the LED lights red but no alarm tone is played, and it is not allowed any tone that match the reception are played.

Silence with Voice: When the radio launches an emergency alarm, the LED lights red and no alarm tone is played, but allow any voices calls that match the reception are played.

Emergency Alarm Modes:

Emergency Alarm: The radio launches the emergency alarm, when receive the confirmation or the number of attempts reach the limit then will exit the “emergency” mode.

Emergency Alarm and Calls: Once press “emergency on” key, it will send the emergency alarm, then can launch emergency call by pressing PTT.

Emergency Alarm and Voice: Once press “emergency on” key, it will send the emergency alarm, and the voice can be sent automatically.

Send Emergency Alarm

The current channel adds an emergency system and reply channel set as the channel. Then can send emergency information at the current channel. Press the “emergency on” key, the LED indicator light on red.

Exit Emergency Alarm

In normal + emergency alarm mode, when the number of attempts

to send an alarm arrives or press the “emergency off ” key can exit the alarm. Or press PTT will automatically exit the alarm mode. In the unconventional alarm mode, press the set “emergency off ” key can exit the alarm mode.

Receive Emergency Alarm

The radio will automatically confirm emergency alarm if activated. When radio receives the signal of emergency alarm, it will play the alarm tone continuously. Otherwise there is no prompt tone. Press the “emergency off ” key can exit the emergency alarm mode.

DTMF

Analog channel, the function of DTMF allows radio to operate when the radio system with interference.

1.Initiating: Under analog mode, press the programmable key to start the DTMF call (The programmable key should be set to one touch access to connect DTMF calling ID by programming software and the current channel's “TX signaling” need to be selected to “DTMF” then can be used), after confirming the tone played, press the PTT to talk.

2.Receive: Select the “RX signaling” of current channel to “DTMF” by programming software, when the decode number is DTMF personal ID, decode succeed and played bells, then can communicate with the other in the reset time. When the reset time comes, it needs to decode again. If the decode is the same to the kill code or activation code, the radio will be killed or activated.

PTT ID

Initiating: Under analog mode, it can set the up/down code of DTMF by programming software, when the analog channel enable the up/down code, each time press PTT send up code, release PTT send down code.

Encryption

You can use digital or analog way to activate/kill the radio. For example, if the radio was stolen or lost, it can prevent thieves from using it and enable it when recovering.

Note: Only the radio turn on the function of kill/ activate (which set up on programming software) can perform it.

Lone Worker

The function of lone worker is suitable to the people who meet an unexpected situation during work, and can't make keystrokes or voice launch in preset time, the radio can automatically enter alarm to get help. Check the option of “Lone Worker” on digital channel by programming software, and set up the “Lone Worker Response Time” and “Lone Worker Reminder Time” which on the “General Setting”. The response can be selected as keystroke operation and voice launch.

Note:
1.Only support digital channel.
2.When an emergency system is not selected, this function is disabled.

Battery Power

Press the preset programmable key can listen to the remaining battery voltage, so that users can understand battery usage and

charge the battery timely. If the tone of battery power is played, it means that the battery power is low, should charge the battery as soon as possible. TX will be prohibited after entering to the low battery power warning situation.

Optional Function

Recording

If the radio has turned on the recording function by programming software, it will segment automatically record the message when transmitting or receiving, the recording files are created at intervals of several seconds. When the storage space of recording is used up, the later recording messages will crowd out the earlier recording messages.

1.Recording On/Off

Press (or hold down) the specified programmable key to turn on/off the recording function, then the radio can record the content of calling.

2.Recording Playback

Press (or hold down) the specified programmable key to turn on the “Recording Playback” function, then the radio can playback the content of calling.

3.Delete All Recording

Press (or hold down) the specified programmable key to turn on the “Delete All Recording” function, then the radio can delete all the content of calling.

Note:

1.Only support the programming software that can select the function of recording.

2.Only support the radio with recording function.

Troubleshooting

Symptom	Solution
No power	Battery power may have run out, please update the battery or recharge it. Battery may not be properly installed, please take it off and re-install.
Battery lasts a short time after charge	The battery life is over, please replace new battery.
Can't talk to other member of your group	Verify that you are using the same frequency and QT/DQT as the rest of the group. Verify transmitting is within the range of signal reception/function of the radio.
Hearing other conversation on a channel (not group members)	Please change code settings, including all two way radio setting of your group.
The radio keeps beeping	The radio channel is empty frequency, please switch to another channel or write frequency before use.

Warranty Card

Contact: _____

Company Name: _____

ADD: _____ Post Code: _____

Tel: _____ Mob: _____

Fax: _____ E-mail: _____

Purchasing: _____ Model No: _____

Serial No: _____ Purchase Date: _____

(S/N): _____ (EAN): _____

Warranty card No: _____

Trouble Description: _____

Warranty Terms

The warranty period of the product is calculated from the date of sale (according to the date on the sales invoice)

The warranty period of radio is one year, the battery or charger is 6 months, and earphone or other accessories are 3 months.

The warranty will not be covered under the following conditions：

1.Warranty card and purchase invoice cannot be presented.

2.The warranty card has altered or is inconsistent with the product.

3.Defect or damage caused by abnormal or unconventional use of the product.

4.Defect or damage caused by wrong use, accident, water or negligence.

5.Defect or damage caused by wrong test, operation, maintenance, installation, refit, adjustment etc.

6.Defect or damage caused by unauthorized maintenance, disassembly etc.

7.Defects or damage caused by irresistible factors

8.Have the abrasion in normal use.

The final interpretation belongs to Fujian Juston Electronic Equipment Company.

STATEMENTS WARNING AND COMPLIANCE STATEMENT:

FCC Part 15.19 Warning Statement
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received interference that may cause undesired operation.

FCC Part 15.21 Warning Statement
The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.Replacement of any transmitter component (crystal, semiconductor, etc) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

FCC Part 15.121(f) Warning Statement
WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

FCC Part 15.105(b) Warning Statement
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Statement
Our device generators RF electromagnetic energy during transmit mode. This device is designed for and classified as "Occupational Use Only" meaning it must be used only during the course of employment by individuals aware of the hazards and the ways to Minimize Such hazards.
This device is NOT intended for use by the "General Population" in an uncontrolled environment. This radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only".
Inaddition, our device complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:
---IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
---American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields 3 kHz to 300 GHz.
---American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave.
The information listed above provides the user with the information needed to make him or her aware of RF exposure and what to do to as-sure that this radio operates with the FCC RF exposure limits of this radio.

Electromagnetic Interference/Compatibility
During transmissions, The radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.
DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft and blasting sites.

Occupational/Controlled Use
The device transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Attention：

This device complieswith IEEE and ICNIRP exposure limits for occupational/controlled RF exposure emvironment at operating duty factors of up to 50% and is authorized by the FCC for Occupational Use Only. An appropriate warning lable is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5 cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original acessories (belt clip), a minimum distance of 0 cm. Do not use this device when antenna shows obvious damages.

Use the two way radio in the environment with the temperature between 0-40℃,otherwise,it may damage your two way radio . It can be operating under 2000m.

Hereby, Our declare that the radio equipment type two way radio is compliance with Directive 2014/53/EU.

For this device,Head SAR and Body SAR was performed with the device configured in the positions according to EN62209-2:2010,and face-up SAR was performed with the device 25mm from the phantom,and Body SAR was performed with the device 0mm from the phantom. Body SAR was also performed with the headset and belt clip attached and without.

Transmitter

Items	USA Version	EU PMR446
Frequency	400-470MHz	PMR446
Frequency stability (-30℃、+60℃、+25℃)	+/-1.5ppm	
High power	5W	0.5W
Modulation restriction	±2.5dB@12.5kHz	
FM hum& noise	-40dB@12.5kHz	
Conducted/radiated emission	-36dBm＜1GHz	
Adjacent channel selectivity	-60dB@12.5kHz	
Audio Response	+1、-3dB	
Audio Distortion	3%	
FM modulation	12.5kHz :11KOF3E	
4FSK digital modulation	12.5kHz data：7K60F1D and 7K60FXD 12.5kHz audio：7K60F1E and 77K60FXE 12.5kHz data and audio：7K60F1W	
Digital vocoder	AMBE+2™	
Digital agreement	ETSI-TS102 361-1、-2、-3	